REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the present amendment and in light of the following discussion, is respectfully requested.

Claims 22-24, 26-29, and 32-44 are pending. Claims 36-41 were withdrawn by the outstanding Office Action. In the present amendment, Claims 22-24, 26-28, and 33 are currently amended, Claims 25, 30, and 31 are canceled without prejudice or disclaimer, and new Claims 42-44 are added. Support for the present amendment can be found in the original specification, for example, at page 7, lines 19-30, at page 8, lines 17-27, and in Figures 1, 5, and 6. Thus, it is respectfully submitted that no new matter is added.

In the outstanding Office Action, Claim 33 was rejected under 35 U.S.C. § 112, second paragraph; Claims 22, 30, 31, 34, and 35 were rejected under 35 U.S.C. § 103(a) as unpatentable over Dzugan et al. (U.S. Patent No. 5,071,054, hereinafter "Brown et al. (U.S. Patent No. 6,417,477, hereinafter "Brown"); Claim 23 was rejected under 35 U.S.C. § 103(a) as unpatentable over Dzugan in view of Brown, and further in view of Sawyer (U.S. Patent No. 5,097,586); Claims 24-29 were rejected under 35 U.S.C. § 103(a) as unpatentable over Dzugan in view of Brown, and further in view of Miyake et al. (Japanese Publication No. 2000-071126, hereinafter "Miyake"); Claims 32 and 33 were rejected under 35 U.S.C. § 103(a) as unpatentable over Dzugan in view of Brown, and further in view of Nesterenko et al. (Soviet Union Publication No. SU1098740, hereinafter "Nesterenko"); Claims 22-31 and 33-35 were provisionally rejected on the ground of non-statutory obviousness-type double patenting over Claims 64-67 and 69-81 of U.S. Application No. 10/560,353; and Claim 32 was provisionally rejected on the ground of non-statutory obviousness-type double patenting over Claims 64-67 and 69-81 of U.S. Application No. 10/560,353 in view of Nesterenko.

Initially, it is noted that a minor informality in the specification is hereby corrected. It is respectfully submitted that no new matter is added.

Further, it is noted that Claims 25, 30, and 31 are hereby canceled without prejudice or disclaimer. Thus, the rejections of these claims are moot.

In response to the rejection of Claim 33 under 35 U.S.C. § 112, second paragraph, it is noted that the term "the hard electrode" finds antecedent basis in amended Claim 22. Accordingly, it is respectfully requested that this rejection be withdrawn.

In response to the rejections under 35 U.S.C. § 103(a), Applicants respectfully request reconsideration of these rejections and traverse these rejections, as discussed below.

Independent Claim 22 is hereby amended to recite, in part, a method for production of a metal product, comprising molding a main body of a metal; removing a portion defining a defect included in the main body to form a recess portion; depositing a deposition from a deposition tool electrode to fill the recess portion by processing the main body as a workpiece of an electric spark machine opposed to the deposition tool electrode; and eliminating a projecting portion of the deposition by a pulsing electronic discharge between the projecting portion of the deposition and a hard electrode in an electrically insulating liquid or an electrically insulating gas.

Thus, a hard electrode, which is a different electrode from the deposition electrode, is used to both remove a portion defining a defect and eliminate a projecting portion of the deposition. The projecting portion is eliminated by a pulsing electronic discharge between the projecting portion of the deposition and a hard electrode in an electrically insulating liquid or gas. It is respectfully submitted that the cited references do not disclose or suggest every feature recited in amended Claim 22.

Dzugan describes a process for removing surface defects from an article 20.[1] Specifically, Dzugan describes filling a removed portion of metal 40 with filler metal 42 and

[1] See Dzugan, at column 6, lines 42-54.

then melting the filler metal 42.[2] The Office Action acknowledges on page 3 that "Dzugan does not disclose filling the recess by the electric spark machine process as recited in the instant claims." Instead, the Office Action relies on Brown to cure this deficiency of Dzugan.

Brown describes an electrospark alloying system 20 including a consumable electrode 21 that transfers material to the base material 22.[3] Specifically, in the electrospark alloying system 20 described in Brown, a spark is generated between the consumable electrode 21 and the base material 22 to melt a portion of the consumable electrode 21 to transfer a weld deposit to the base material 22.[4]

However, it is respectfully submitted that Dzugan in view of Brown does not disclose or suggest "eliminating a projecting portion of the deposition by a pulsing electronic discharge between the projecting portion of the deposition and a hard electrode in an electrically insulating liquid or an electrically insulating gas," as recited in amended Claim 22.

Instead, as discussed above, Dzugan describes that the filler metal 42 is melted and thus the projecting portion appears to settle into cracks in the filler metal 42, as shown in Figures 4 and 5. Further, even assuming that modifying Dzugan to include the electrospark alloying system 20 of Brown is proper, Brown only describes adding material by melting the consumable electrode 21. Thus, such a combination does not disclose or suggest eliminating the projection portion by a pulsing electronic discharge.

Therefore, it is respectfully submitted that the combination of Dzugan in view of Brown does not disclose or suggest every feature recited in amended Claim 22. Thus, it is respectfully requested that the rejection of Claim 22, and all claims dependent thereon, as unpatentable over Dzugan in view of Brown be withdrawn.

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[2] See Dzugan, at column 6, lines 1-27 and in Figures 4 and 5.
[3] See Brown, at column 3, lines 42-44.
[4] See Brown, at column 3, lines 44-46.

Regarding the rejection of Claim 23 as unpatentable over Dzugan in view of Brown, and further in view of Sawyer, it is noted that Claim 23 depends on Claim 22, and thus is believed to be patentable for at least the reasons discussed above with respect to Claim 22. Further, it is respectfully submitted that Sawyer does not cure the above-noted deficiencies of Dzugan in view of Brown. Specifically, Sawyer describes wire electric discharge machining where a wire is used to remove defects in a mandrel 30. Thus, the wire electric discharge machining described in Sawyer does not eliminate a projecting portion of the deposition by a pulsing electronic discharge between the projecting portion of the deposition and a hard electrode in an electrically insulating liquid or an electrically insulating gas.

Accordingly, it is respectfully submitted that Claim 23 is patentable over Dzugan in view of Brown, and further in view of Sawyer. Thus, it is respectfully requested that the rejection of Claim 23 be withdrawn.

Regarding the rejection of Claims 24-29 as unpatentable over Dzugan in view of Brown, and further in view of Miyake, it is noted that Claims 24 and 26-29 depend on Claim 22, and thus are believed to be patentable for at least the reasons discussed above with respect to Claim 22. Further, it is respectfully submitted that Miyake does not cure the above-noted deficiencies of Dzugan in view of Brown. Specifically, Miyake describes removing surface roughness of a reforming layer 22 with a grinding tool 21.[5]

Accordingly, it is respectfully submitted that Claims 24-29 are patentable over Dzugan in view of Miyake, and further in view of Sawyer. Thus, it is respectfully requested that the rejection of Claims 24-29 be withdrawn.

Regarding the rejection of Claims 32 and 33 as unpatentable over Dzugan in view of Brown, and further in view of Nesterenko, it is noted that Claims 32 and 33 depend on Claim 22, and thus are believed to be patentable for at least the reasons discussed above with respect

[5] See Miyake, at paragraphs [0013], [0014], and [0021] of the English language machine translation thereof.

to Claim 22. Further, it is respectfully submitted that Nesterenko does not cure any of the above-noted deficiencies of Dzugan in view of Brown.

Accordingly, it is respectfully submitted that Claims 32 and 33 are patentable over Dzugan in view of Miyake, and further in view of Sawyer. Thus, it is respectfully requested that the rejection of Claims 32 and 33 be withdrawn.

New Claims 42-44 are added by the present amendment. Support for new Claims 42-44 can be found in the original specification, for example, at page 7, lines 19-30, at page 8, lines 17-27, and in Figures 1, 5, and 6. Thus, it is respectfully submitted that no new matter is added. Further, as new Claims 42-44 depend on Claim 22, it is respectfully submitted that Claims 42-44 patentably define over the cited references for at least the reasons discussed above with respect to Claim 22.

With regard to the provisional non-statutory double patenting rejections based on U.S. Application No. 10/560,353, those rejections are respectfully traversed in light of the terminal disclaimer submitted herewith.

It is noted that the filing of a Terminal Disclaimer to obviate a rejection based on non-statutory double patenting is not an admission of the propriety of the rejection. The "filing of a terminal disclaimer simply serves the statutory function of removing the rejection of double patenting, and raises neither a presumption nor estoppel on the merits of the rejection." *Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870, 20 USPQ2d 1392 (Fed. Cir. 1991). Accordingly, the filing of the attached disclaimer is provided for facilitating a timely resolution to prosecution only, and should not be interpreted as an admission as to the merits of the obviated rejection.

Consequently, in view of the present amendment, no further issues are believed to be outstanding and the present application is believed to be in condition for formal allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

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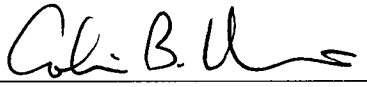

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